

24 August 2017

## Development green light for OZ Minerals Carrapateena copper gold mine

- Board approves ~\$916 million development of Carrapateena copper gold mine<sup>i</sup>
- Feasibility Study update has progressed to a stage which confirms economic robustness with NPV increase of 18 % to approximately \$910 million<sup>ii</sup>
- Ore Reserve tonnage estimate increased by 13% to 79 Mt with copper equivalent grade of 2.31%<sup>iii</sup>
- Internationally saleable concentrate to be produced – Concentrate Treatment Plant removed from base case
- Cost certainty has increased with 50% of pre-production capital in lump sum contracts near finalisation
- Construction certainty increased through engagement of experienced construction partners
- Phased work program starts September 2017 with commissioning Q4 2019
- Expansion optionality identified and preserved
- OZ Minerals can fund Carrapateena development from cash on hand and expected cash flow from the Prominent Hill Project whilst maintaining its dividend policy without the need for debt

OZ Minerals' Chairman, Rebecca McGrath, announced today that the Board had approved development of the approximately \$916 million Carrapateena mine, Australia's largest undeveloped copper project, located 160 km north of Port Augusta in South Australia.

"The Board decision represents the next stage in the company's development. This is an exciting time for OZ Minerals. Carrapateena will be a robust, cash generating asset with expansion potential that sets OZ Minerals up for further growth. This decision is a significant enabling step in realising our strategy to become a low cost multi asset copper miner delivering value for all stakeholders," she said.

OZ Minerals Chief Executive Officer, Andrew Cole said "Our confidence in the economics, constructability and operability of the Carrapateena project as a long life low cost mine has been further reinforced through the feasibility study phase.

"Carrapateena is now firmly established as a high quality project in its own right with opportunities identified including expanding the existing cave footprint and accessing satellite deposits. It also serves as a base for potential district development of nearby Fremantle Doctor and Khamsin. These future expansion options have been enabled by the improved mine design, but remain as upside to the current valuation.

"As at 30 June 2017, OZ Minerals' cash on balance sheet was \$625 million. The project is expected to be fully funded from cash reserves and future cash flow from the Prominent Hill Project, whilst maintaining OZ Minerals' dividend policy.

"Since the Pre-Feasibility Study the NPV of Carrapateena has increased 18 per cent to approximately \$910 million due to increased metal production, higher consensus commodity prices and removal of Concentrate Treatment Plant (CTP) costs. Over the past 12 months, additional test work, including a continuous flotation pilot plant, has improved confidence in a consistent and predictable downgrade of impurities from ore to concentrate. We are confident from early discussions that Carrapateena concentrate will be a sought after product in the international concentrate market.

"The project value improvements more than offset an increase in capital costs resulting from improved pricing and scope definition.

"The Early Contractor Involvement process is near completion. It will result in 50 per cent of pre-production capital in lump sum contracts near finalisation with experienced construction partners, primarily Ausenco-Downer JV and NRW.

"In line with our agile approach to project development, construction will progress in two phases. This approach also serves to smooth and lower on-site construction personnel thereby enabling a 30 per cent reduction in the size of the camp.

"Phase one is scheduled to begin next month with construction of enabling infrastructure including the accommodation village and airstrip and continuing development of the dual access decline. The Mining Lease approval process continues and State and Federal Government departments are working to an agreed schedule, which should see the Mining Lease granted within six months.

"The second phase, subject to mining lease approval, is scheduled to commence in Q2 2018. This phase includes construction of the processing plant and other above ground infrastructure, installation of the underground materials handling system, construction of the tailings storage facility, Western Access Road and power line.

"Our caving knowledge has been enhanced with recruitment of a number of experienced cave miners into key operational roles including general management, technical services and mining, and the engagement of caving experts for the revised mining study and mine plan.

"There is strong community support for the project. A Native Title Mining Agreement, underpinned by the landmark partnering agreement, is now in place with the Kokatha Aboriginal Corporation following a community meeting at the end of July," Andrew Cole said.

Development of the access decline has now reached a total of 2,594metres and the second conveyor decline has broken through to the completed box cut as scheduled this week.

**A comprehensive feasibility update document is attached as is the Carrapateena Reserve update. A summary of key metrics is provided on the following page.**

## Key Financial and Production Metrics:

Net Present Value*	~ \$910 million
Internal Rate of Return*	~ 20%
Project Payback	2024
Pre-production capital**	~ \$916 million
Average annual net cash flow	~ \$265 million
Mining production	4.25 Mtpa
Mine life	20 years
LOM annual metal production	65,000 t Copper / 67,000 oz Gold
Annual metal full production years 1-3	66,000 t Copper / 80,000 oz Gold
LOM All-in sustaining cost	~ US 99c/lb
LOM C1 Cost	~ US 62c/lb
Commissioning date	Q4 2019

\* At consensus pricing (unlevered, post-tax), 9.5% real discount rate. Please refer to the assumptions and commentary in the Carrapateena Feasibility Study Update released on and the Carrapateena Ore Reserve Statement as at 4 August 2017 released on 24 August 2017

\*\* Including \$66 million in contingency; excluding \$63 million in sunk costs from 1 July 2016

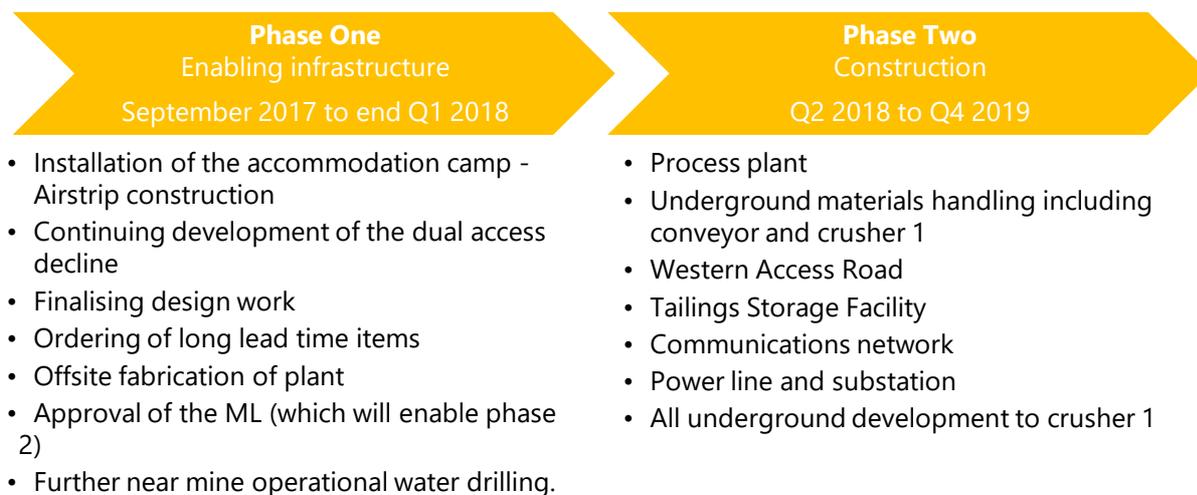
\*\*\* The production targets referred to in this announcement are based on [94]% Probable Ore Reserves and [6]% Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production targets themselves will be realised.

The Ore Reserve estimate has increased by 13 per cent to 79 Mt based on the mine design update.<sup>iv</sup>

Ore Reserve	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Cu (kt)	Au (koz)	Ag (Moz)
Proved	0	0	0	0	0	0	0
Probable	79	1.8	0.7	8.5	1,400	1,800	22
<b>Total</b>	<b>79</b>	<b>1.8</b>	<b>0.7</b>	<b>8.5</b>	<b>1,400</b>	<b>1,800</b>	<b>22</b>

## Two phased construction

The two-phased work program is scheduled to start next month.



## Cost and constructability certainty

Cost certainty has increased with 50 per cent of the total pre-production capital in lump sum contracts near finalisation with experienced construction partners:

- Ausenco-Downer JV – processing plant, non-processing and underground infrastructure
- NRW – Tailings storage facility, civils, western access road and airstrip

Other key work packages are:

- PYBAR – Decline development
- ElectraNet – Build Own Operate and Maintain agreement including installation of an additional transmission line and substation being negotiated
- Purchase, transport and installation of the accommodation village

## Improvements since PFS

Changes made since the PFS to improve economics and manage risk include:

- Moving all underground capital development to footwall host rocks on the south west from the north east and out of the mineralised zone
- Refining the mining footprint and cave draw rates to compensate for the minor reduction in grades between the 2015 and 2016 Mineral Resource estimates.
- Adding a third permanent underground crusher to enhance productivity. Temporary surface crusher removed
- Reduced primary ventilation rises through to the surface from 10 down to four with the dual decline and rationalisation
- Improving level layouts to reduce traffic interactions and improve productivity
- Optimising cave footprint, including the addition of a new level to maximise early ore
- Improving materials handling system with a conveyor located in a separate decline
- Optimising plant footprint and layout, reducing energy consumption and adding capacity for greater automation to improve productivity and lower costs
- Improved confidence in achieving a consistent and predictable downgrade of uranium from ore to concentrate to ensure Carrapateena concentrate is able to be internationally saleable without attracting penalties for the first eight years of production. Accordingly CTP is no longer included in the Carrapateena Base case.

## **PFS v FS costs**

During the Feasibility Study pre-production capital has increased by approximately \$80 million primarily accounted for by:

- Commissioning pushed back by three months to Q4 2019
- Better definition of mining and material handling systems
- Accommodation village increase of ~ \$14 million from the original plan which was to relocate excess Prominent Hill accommodation units
- Access road, an additional ~ \$23 million due to lack of suitable road base material proximal to road construction requiring construction material to be sourced from an off-site quarry
- Tailings dam increase of ~ \$16 million due to higher than estimated contract unit rates
- Airstrip of ~ \$8 million now included to reduce construction road traffic movements and enhance road safety.

## **Risks**

There are risks specific to the Carrapateena Project and risks which are relevant to the mining industry in general which may cause the project's actual results to differ materially from the results expressed or anticipated in this announcement. These are discussed in the Carrapateena Feasibility Study Update released on 24 August 2017 which should be read in full together with this announcement.

## **Risk mitigation**

- Water – construction water supply has been secured. However, a portion of the operational water supply is affected by higher salinity levels and opportunities are being explored to secure higher quality water close to the operation.
- Decline advance rate – more than 2 km of development has been completed with the advance rate remaining on schedule to reach the top of the orebody in Q2 2019. Any deceleration in decline advance has the potential to delay the commissioning of the mine.
- Caveability – risk has been significantly reduced by optimising the sub level cave footprint and through identification of various pre-conditioning methods that can be progressively or selectively applied.
- Power – 55 MW transmission connection agreement is now unconditional, but a power purchasing agreement has yet to be agreed. Exposure to price remains but downside is moderated by increased supply optionality coming into the market.

## **Future growth optionality**

The future opportunity profile of the project has improved as a result of both the surface and underground design work being completed. The base case:

- Excludes the known mineralisation zones associated with Fremantle Doctor, Khamsin and The Saddle districts.
- Includes resource drilling to define a potential circa 2 Mt zone of mineralisation adjacent to the sub level cave. Whilst a concept study has been completed on the area, no Ore Reserve estimate has been generated for this zone of mineralisation, and no benefit has been included in the financial evaluation of the Carrapateena project.
- Now sees a surface layout which can accommodate future expansion whilst reducing the overall footprint to reduce construction costs and facilitate maintenance access.

Opportunities also include expansion of the sub level cave footprint to access surrounding mineralisation. The project establishes a base for development of the wider region. There are numerous undrilled anomalies in the area. OZ Minerals holds 370,000 hectares of exploration licences of which only a fraction have been explored.

## Concentrate Treatment Plant

The Concentrate Treatment Plant is now being managed as a separate project, independent of the Carrapateena timeline. The CTP continues to offer opportunities to be a strategic differentiator for OZ Minerals with the capacity to upgrade concentrates to 50-60 per cent copper with negligible impurities making them an attractive feedstock for customers throughout the world.

While not needed for Carrapateena, the project potentially offers future upside for both Carrapateena and Prominent Hill in light of the global trend of decreasing concentrate grades and increasing impurities in the copper concentrate market. Therefore the scope has been expanded to also include Prominent Hill concentrate.

Test work has confirmed the viability of the process and the focus of current studies is on development and optimisation of the various technical options.

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<sup>i</sup> The material assumptions used in the estimation of the development cost can be found in the Carrapateena Feasibility Study Update released on 24 August 2017.

<sup>ii</sup> The material assumptions used in the estimation of the production targets and associated financial information referred to in this announcement can be found in the Carrapateena Feasibility Study Update released on 24 August 2017, the Restated 2016 Carrapateena Mineral Resource Statement as at 18 November 2016 and the Carrapateena Ore Reserve Statement as at 4 August 2017 released on 24 August 2017.

<sup>iii</sup>  $CuEq = Cu (\%) + Au (g/t) \times 0.6354 + Ag (g/t) \times 0.009425$ . Based on assumed recoveries of 91% for Cu, 73% for Au and 79% for Ag which are taken and the Carrapateena Ore Reserve Statement as at 4 August 2017 released on 24 August 2017.

<sup>iv</sup> This information is extracted from the report entitled "Carrapateena Ore Reserve Statement as at 4 August 2017" which was released to the market on 24 August 2017 and is available to view at [www.ozminerals.com/media/asx](http://www.ozminerals.com/media/asx). OZ Minerals confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. OZ Minerals confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.